

The JumpCourt system can be tuned for different demand uses. Through engineering calculations it has been possible to generate minimum and maximum parameters for choosing the spring rate of the poles in relation to various versions of the JumpCourt system. The poles should be viewed as long tubular springs attached to an elevated diaphragm that also disperses, absorbs, and re-cycles the impact forces directed at the poles. The diaphragm also transfers these forces to the support system that maintains the diaphragm's elevation. The poles or tubular springs can be loaded by tightening the top strap which would push/pull the tubular springs downward and inward. This would make the JumpCourt system tighter/less flexible so that the impact forces from a focused strike point would transfer more quickly to the entire system than would be the case if the top strap were loosened, unloading tubular springs and allowing them more space to flex, thus delaying transfer time and making any impact with the net feel "softer" which would be better for lighter individuals. Loading the poles/tubular springs in this way works on the same principle as loading a bow for the purpose of shooting arrows. Another novel feature, when the poles begin to fatigue over time the top strap may be tightened to compensate for this increased flexibility and the net may be adjusted or trimmed (depending on the version of the JumpCourt and the net/woven fabric material used).

Poles can also be mounted inside the circumference of the frame making it easier to install the JumpCourt system where space is too limited for exterior mounted poles. This change however has little or no effect on the way the does system was designed to manage the forces of impact.

The net may be suspended on the inside or outside of the poles. The straps and shock cords that are wrapped around the foam and inline with it are not necessary when the net is installed outside the poles. Of course the top/bottom straps may still be tightened to load the tubular springs/poles, and the foam padding which surrounds the poles still acts like a shock absorber for the net which constitutes another novel feature. For example, an impact to the net at one spot would tension it around its entire circumference compressing the foam padding on all poles. The net may also be suspended inside one pole and outside the adjacent poles or in any other in/out configuration depending on the desired impact absorption qualities being sought-after in a particular JumpCourt design.

The trick to designing the JumpCourt system with poles/tubular springs connected at top with a flexible inelastic, semi elastic, or elastic top strap was to engineer it so that the impact forces transferring to the trampoline frame did so in a manner which took advantage of the structural strengths of the trampoline in its entirety. None of the other artwork shows this kind of impact forces management system. For instance, if any impact to the net occurred at a midpoint between two poles and the top and bottom of the net, only the JumpCourt system could respond in the following manner. The tops of the poles/tubular springs are allowed to flex downward toward each other, toward the area of impact. This loading of tubular springs works on the same principle as loading a bow for the purpose of shooting arrows. This effect makes it possible for the JumpCourt system to conserve more of the impact force energy in the poles/tubular springs enabling the system to more efficiently re-cycle this energy back into the impacting body for the purpose of returning it to the trampoline surface. None of the other artwork cited which shows a safety fence connected to an elevated diaphragm demonstrates the ability of the poles to flex downward and toward each other at the same time and this is a significant difference between the art. Because the tops of the poles/tubular springs are connected by a flexible cord they are not as limited in their range of motion as would be the case if they were connected by an inflexible cord. This additional freedom of movement in the poles enables the net to more completely conform to the surface of an impacting body, distributing the forces of impact over a larger surface area on the body which reduces the likelihood of injury.

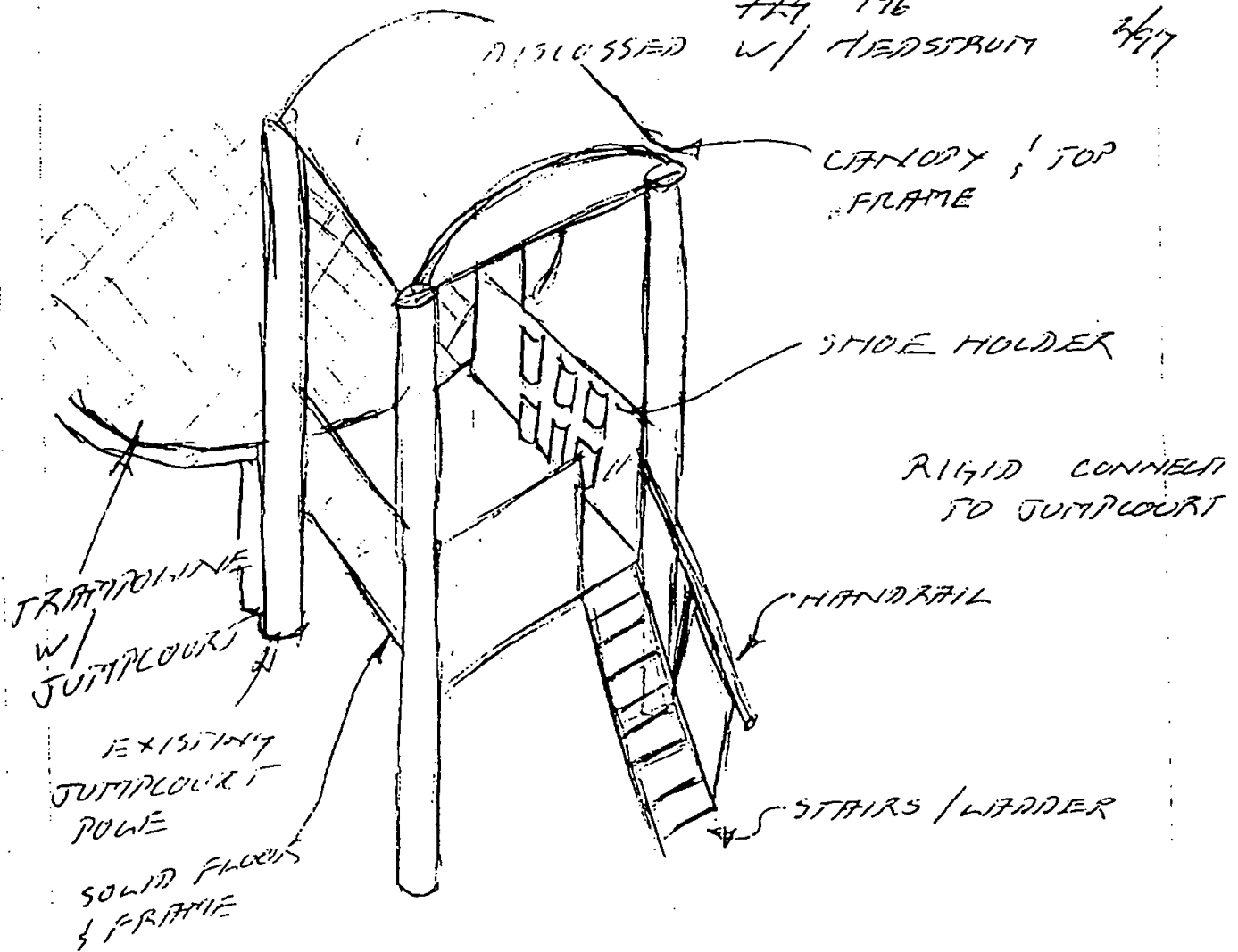
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2/20/98

PLAY STRUCTURE

CONCEIVED BY MARK PUBLICOVER
7/29/96

DISCUSSED W/ MEDSTRUM 2/97



TO PROVIDE A TRANSITION STRUCTURE
FOR ADJUSTING "SEAT LEGS" WHILE
MOVING TO & FROM TRAMPOLINE, REDUCING
SPRAINS, FALLS, ETC.

STABILIZES, COUNTER-BALANCES & ANCHORS
TRAMPOLINE & JUMPLOUT, STIFFENS &
CONSTRAINS TRAMPOLINE FRAMING TO
PREVENT POTENTIAL CHIPPING OF FRAMING

6/1

JUMPSPORT w/SLIP-FIT POLES
CONCEIVED, DISCUSSED BY MARK
PUBLICOWER, TOM LYNCH (ALLIED
STEEL) 12/15/97 (REF PERSONAL
NOTEBOOK)

SWAYE JOINT ON STEEL POLES
NOW REPLACED WITH SLIP-FIT
JOINT

- INCREASED WALL THICKNESS
AT HIGH-STRESS POINT, REDUCING
STRESS LEVEL

- REDUCED PACKAGING SIZE
BY PACKAGING UPPER POLE INSIDE
LOWER POLE INSIDE FOAM PADDING.
PADDING PROTECTS SURFACE FINISH
OF LOWER POLE EXTERIOR. SLIP-
FITTING POLES REDUCES PACKAGE
SIZE (& SHIPPING COSTS), REDUCES
CRUSHING OF NON-STEEL PARTS
(EG VIDEO TAPE), REDUCES MATERIAL
MOVEMENT AND USE OF PACKAGE
INSERTS. SLIP-FITTED POLES
STIFFEN BOX, ALLOWING LIGHTER
BOX MATERIAL w/LESS REINFORC-
MENTS, PREVENTS STACKED BOXES
FROM CRUSHING LOWER BOXES.
FOAM PADDING FRICTION FIT
AGAINST LOWER SUPPORT TUBE
PREVENTS TUBE MOVEMENT IN
PACKAGING & SUBSEQUENT PUNCHING
OUT OF BOX END.

- POLES ARE (PARTIAL) ASSEMBLED
ALLOWING CONSUMER TO PREVIEW
POLE ASSY.

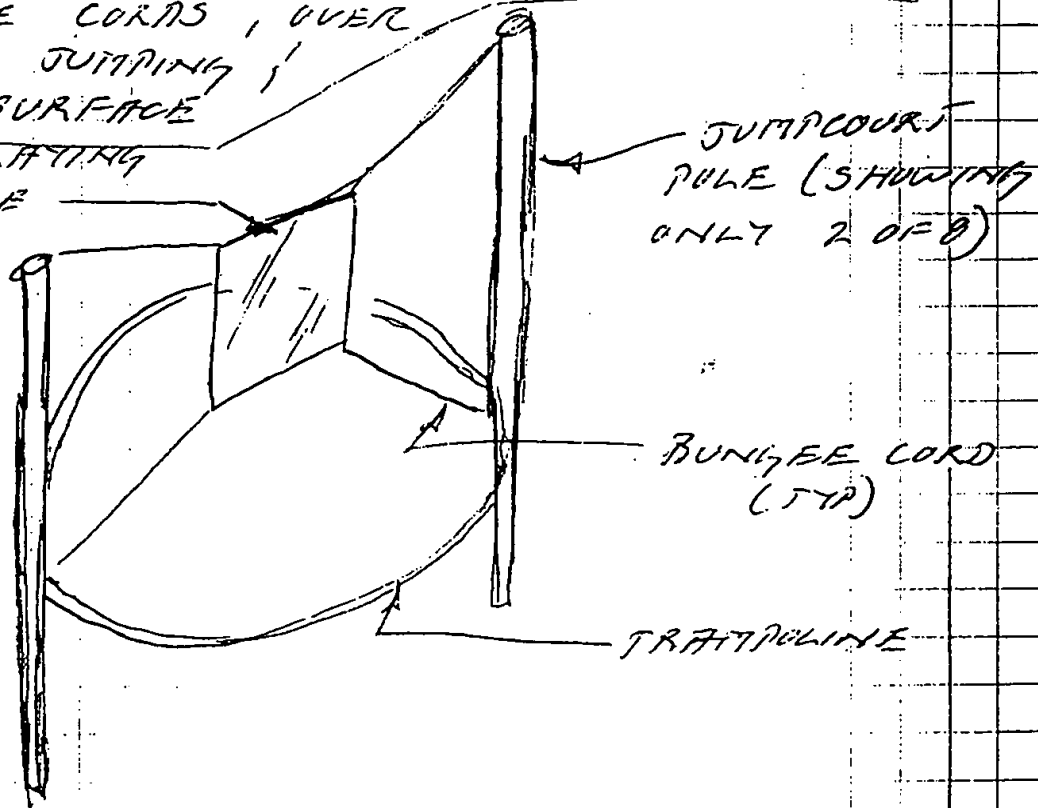
- SLIP-FIT BECOMES QUALITY
INSPECTION, MAKING SURE POLES
SLIP-FIT IN PACKAGING BEFORE
REMOVING FROM PACKAGING

- CAPS FITTED MALE-FEMALE
SINGLE STACK TO REDUCE
PACKAGE SPACE.

- SLIP-FIT ALLOWS TUNING
OF SPRING CHARACTERISTICS
BY REDUCING OR INCREASING
LENGTH. ALSO ALLOWS
ATTACHMENT TO SHORTER
TRAMPOLINES BY INCREASING
SLIP-FIT.

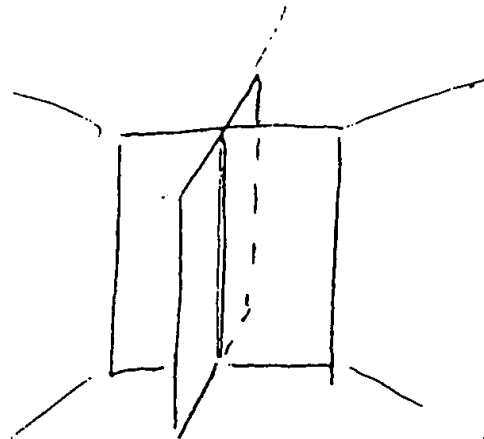
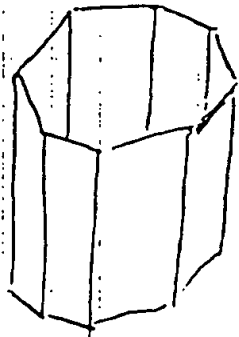
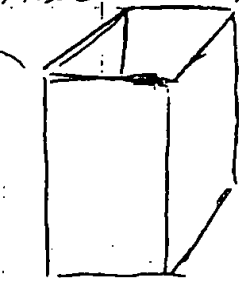
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JUMP COURT SIDES - MARK POLYCOVER, APPARATUS
 PLAYING SURFACES, SUSPENDED BY
 BUNGEE CORDS, OVER
 ELASTIC JUMPING,
 PLAYING SURFACE
 GAME PLAYING
 SURFACE

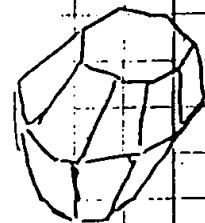


ALTERNATE GAME PLAYING SURFACE CONFIGURATIONS

SIDES EXTENDED
 BY TENSION
 OF BUNGEE
 CORDS



SOLID POLYGON



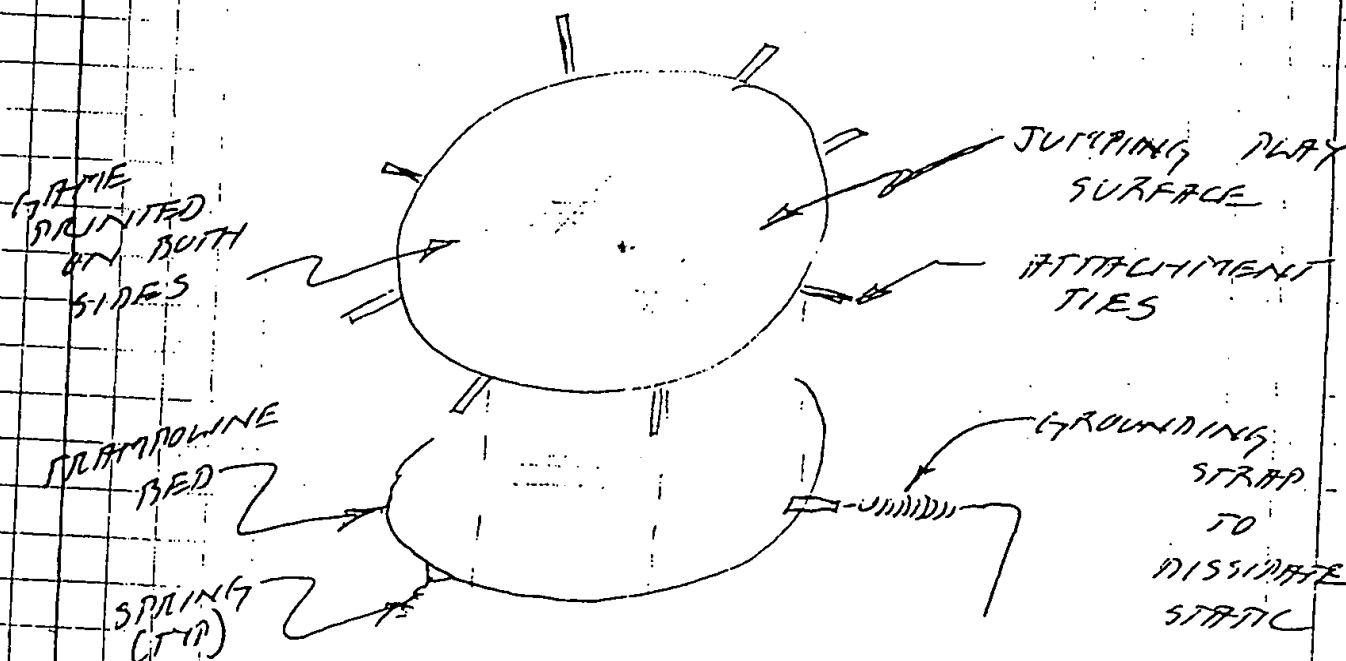
GETS SHAPE FROM
 STENX - IN PLASTIC WIRE
 IN SPIRAL PATTERN

GAMES UTILIZE FABRIC (SMOOTH AND/OR KNAPPED) SURFACE FOR STRUCTURED NON-ACROBATIC GAME ACTIVITIES, COMBINING BTE-MEND ABILITY WITH JUMPING / BOUNCING ON A JUMPING SURFACE

"PRE-SCHOOL PARK" CAN COMBINE ABOVE WITH EDUCATIONAL DIRECTION (LEARNING TO TELL TIME ON A CLOCK FACE, NORTH - SOUTH - EAST - WEST, NUMBERS, COLORS, ANIMALS, FISH ...)

GAMES REQUIRE JUMPING ON OR JUMPING TO REMOVE OR PLACE JOY MARKERS AS THE ANSWER, OR AS THE PLAYERS RESPONSE ("MOVE") IN THE GAME. GAMES COULD INVOLVE PLACING A MARKER TO TELL OR ILLUSTRATE A STORY.

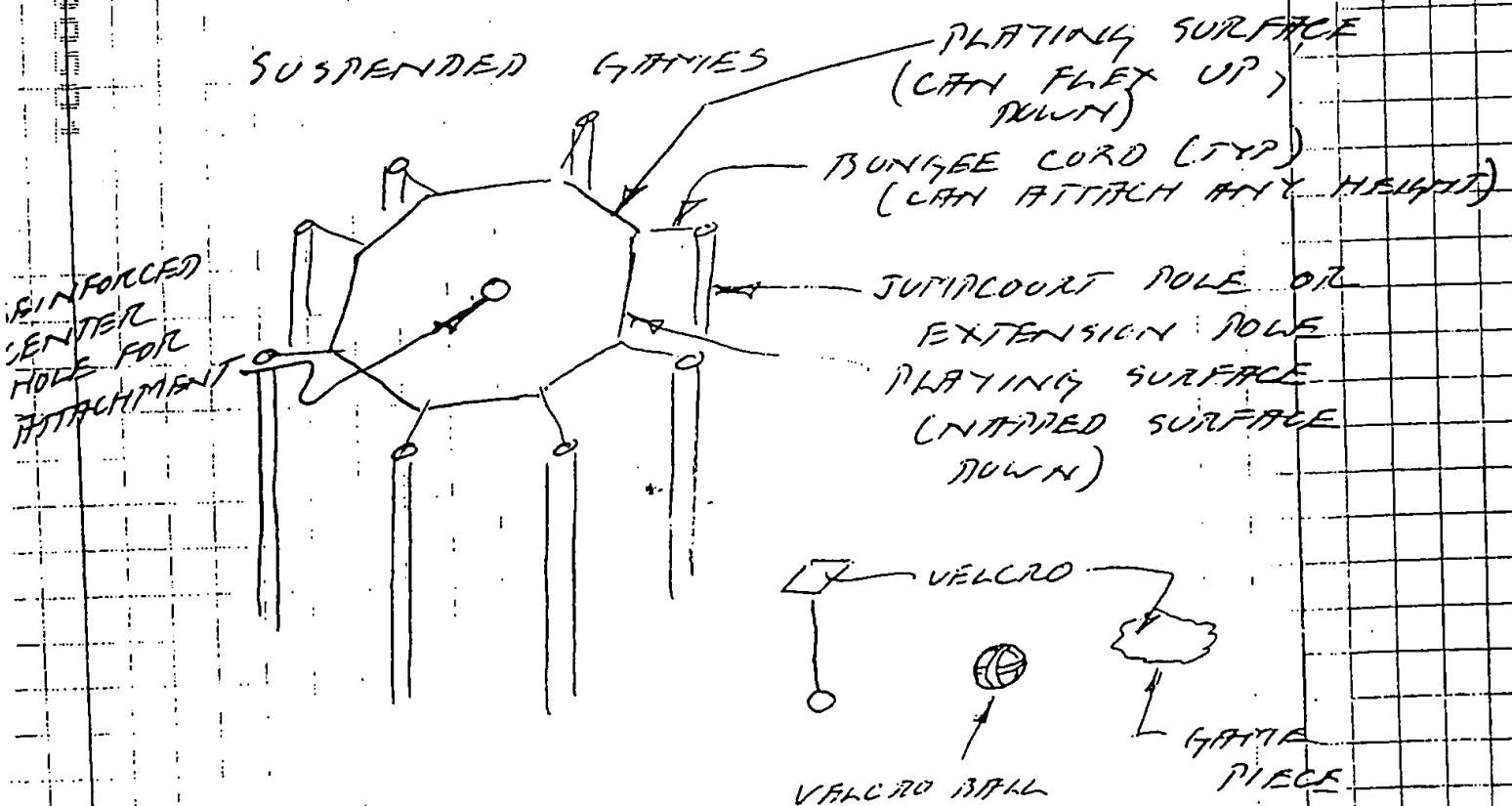
JUMPING SURFACE GAMES



STATIC ELECTRICITY DISSIPATION
CAN BE THROUGH GROUNDING
STRAP, CONDUCTIVE COATING,
STATIC GROUNDING STRAP, OR
USE OF LUBRICANT (WATER,
BABY POWDER, ETC) BETWEEN
BED ; PLAYING SURFACE

GAME PIECES MAY BE
MAGNETICALLY OR VELCRO ATTACHED
(HOOK FASTENERS ON GAME
PIECES, NAPPED SURFACE ON
GAME PLAY SURFACE)

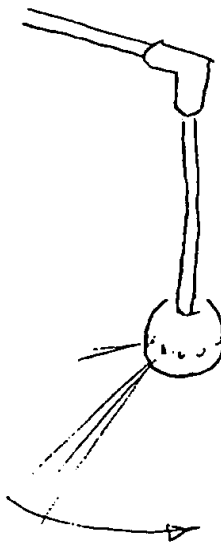
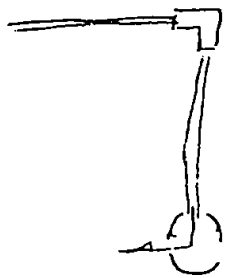
ATTACHMENT TIES (BUNGEE,
VELCRO OR FABRIC) ARE JOINING
SURFACE TO EXISTING TRIANGOLINE-
TO-SPRING CONNECTIONS/LOOPS.



WATER - STREAMY TOTS

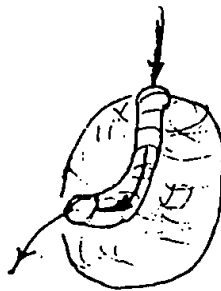
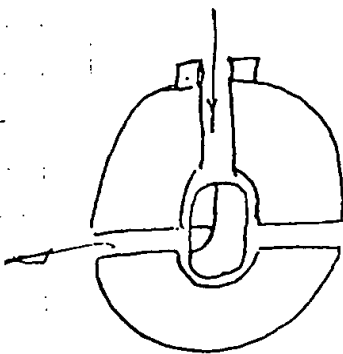
USING WATER STREAMY, FROM
SINGLE OR MULTIPLE JET HEAD
WITH SELECTABLE SPRAY PATTERNS,
FOR JUMPING GAMES.

WATER SPRAY WILL OSCILLATE
FROM FIXED OR MOVING POSITION,
WITH CONSTANT, VARYING OR
INCREASING ROTATION RATE. FLOW
RATE INCREASES ROTATION RATE, OR
ROTATION RATE INCREASES INCREMENTALLY



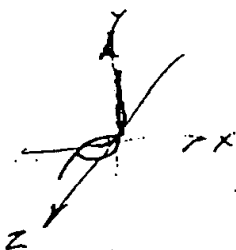
WITH EACH
ROTATION
(CLOCKWORK
MECHANISM)

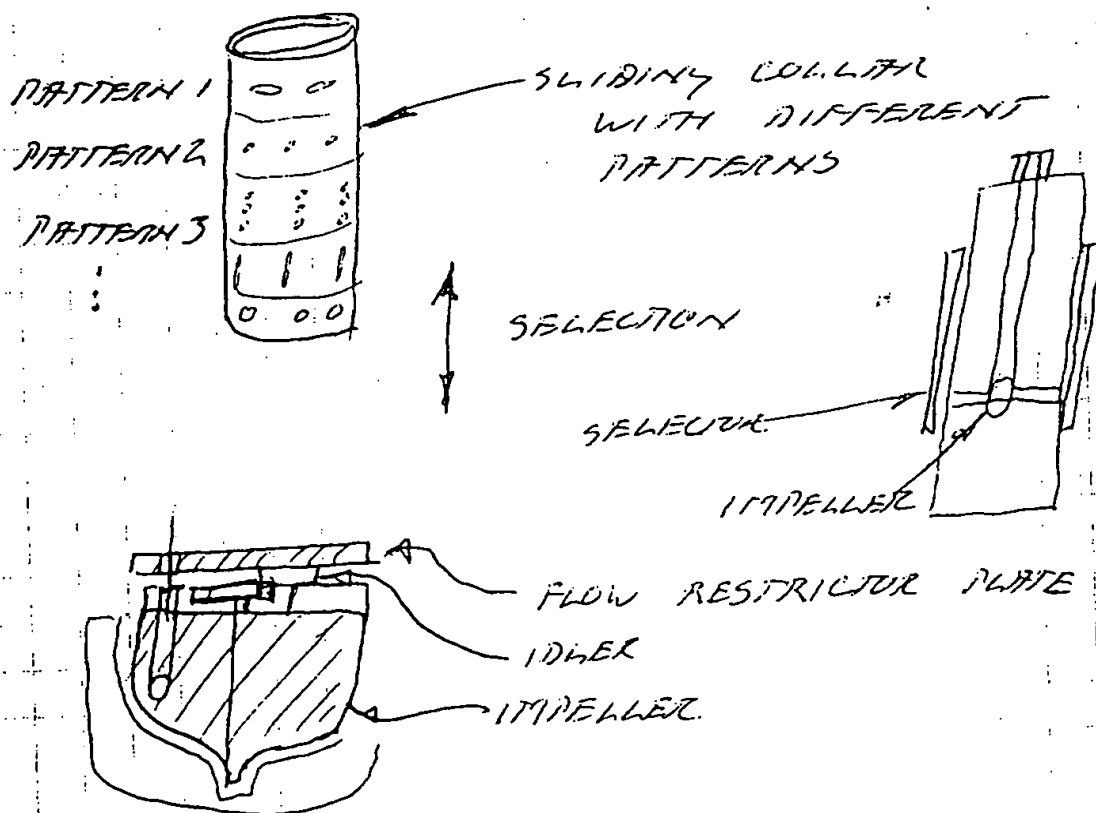
WATER SPRAY
ROTATES OR
RANDOMLY SELECTS
SPRAY MODE



ROTATING SELECTOR
IMPELLER

(FLOW COMES IN
FROM Y AXIS,
EXITS IN X-Z
PLANE OFF-AXIS
TO PROVIDE
ROTATION OF
IMPELLER)

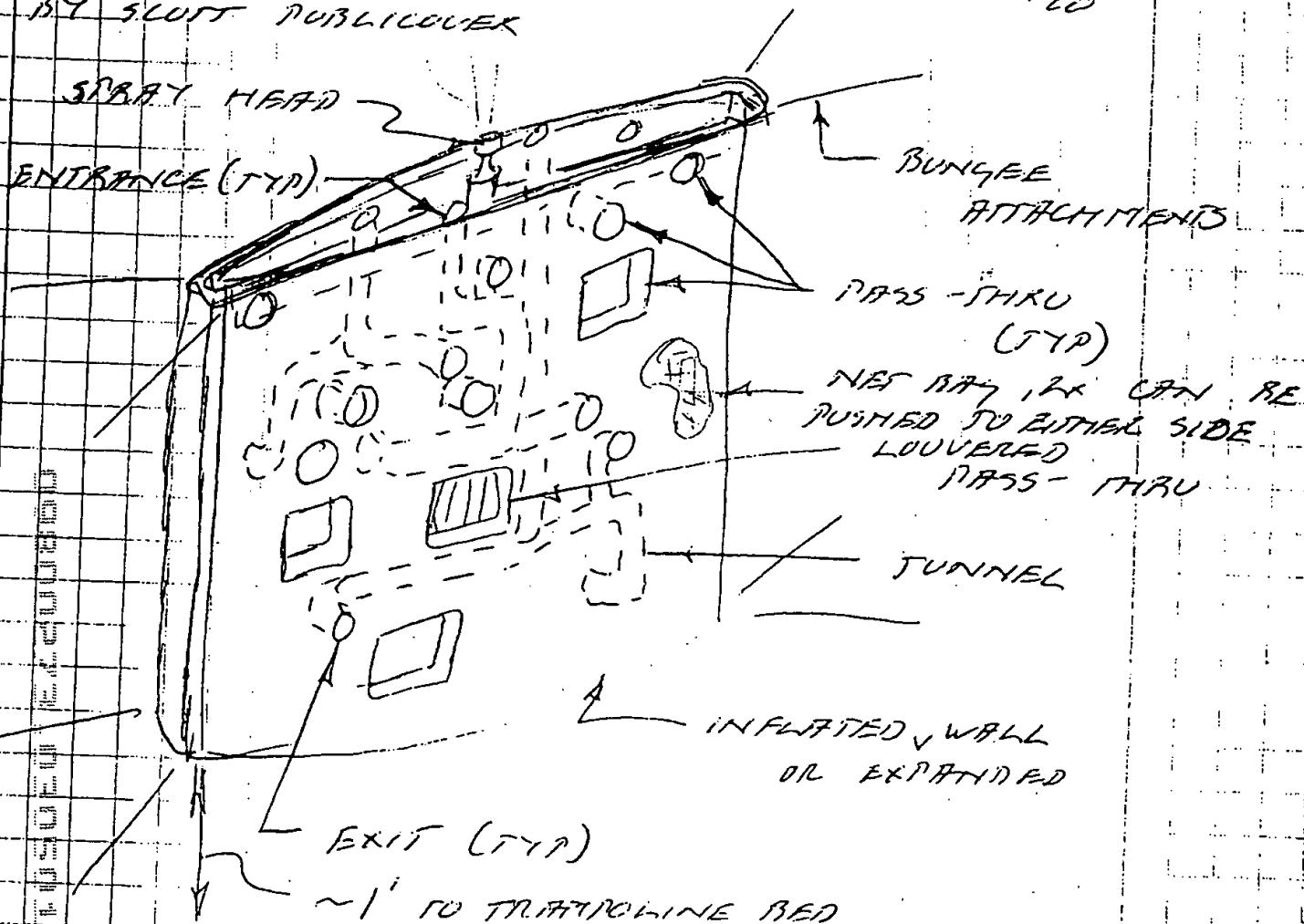




FLOW RESTRICTOR IS AN ECCENTRICALLY ROTATING PLATE DRIVEN THROUGH A GEAR TRAIN TO PRESENT A CONSTANTLY CHANGING FLOW OPENING, INCREASING OR DECREASING THE STRENGTH OF THE WATER JET. AT THE SAME TIME, THE IMPELLER (WHICH DRIVES THE FLOW RESTRICTOR PLATE GEAR TRAIN) RE-DIRECTS THE FLOW DIRECTION THROUGH THE SELECTED SPRAY PATTERN JET.

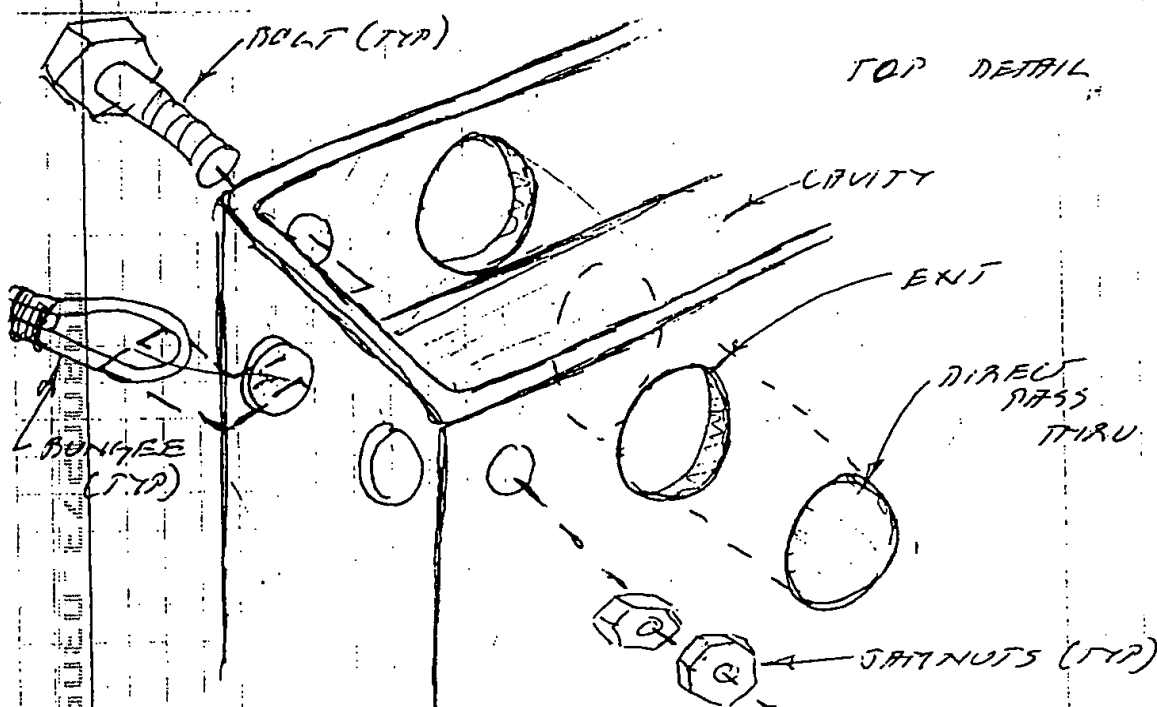
SCOTT'S GAME WITH
BY SCOTT PUBLICOVER

6/4/98



INFLATED STRUCTURE, SUSPENDED BY
BUNGEE CORDS, WITH INTERNAL TUNNELS
& PASS-THROUGHS. WATER SPRAY HEAD
ON TOP SPRAYS PLAYERS; ALLOWS
WATER TO FLOW THROUGH TUNNELS,
RANDOMLY CHANGING PATH OF BALLS
FALLING THRU TUNNELS.

BALLS CAN BE PASSED THRU FRONT
SIDE TO SIDE, OR FALL FROM TOP
CAVITY THRU TUNNELS. BALLS CAN
END UP ON EITHER SIDE OF WALL



BARRY'S CAPTURE
THE FLAG

ATTACHMENT

PIN

BY BARRY LOU
GATIE BLOCK
(FOUR)

COLORS
PASS PROTRUDE
FROM BOTH
SIDES

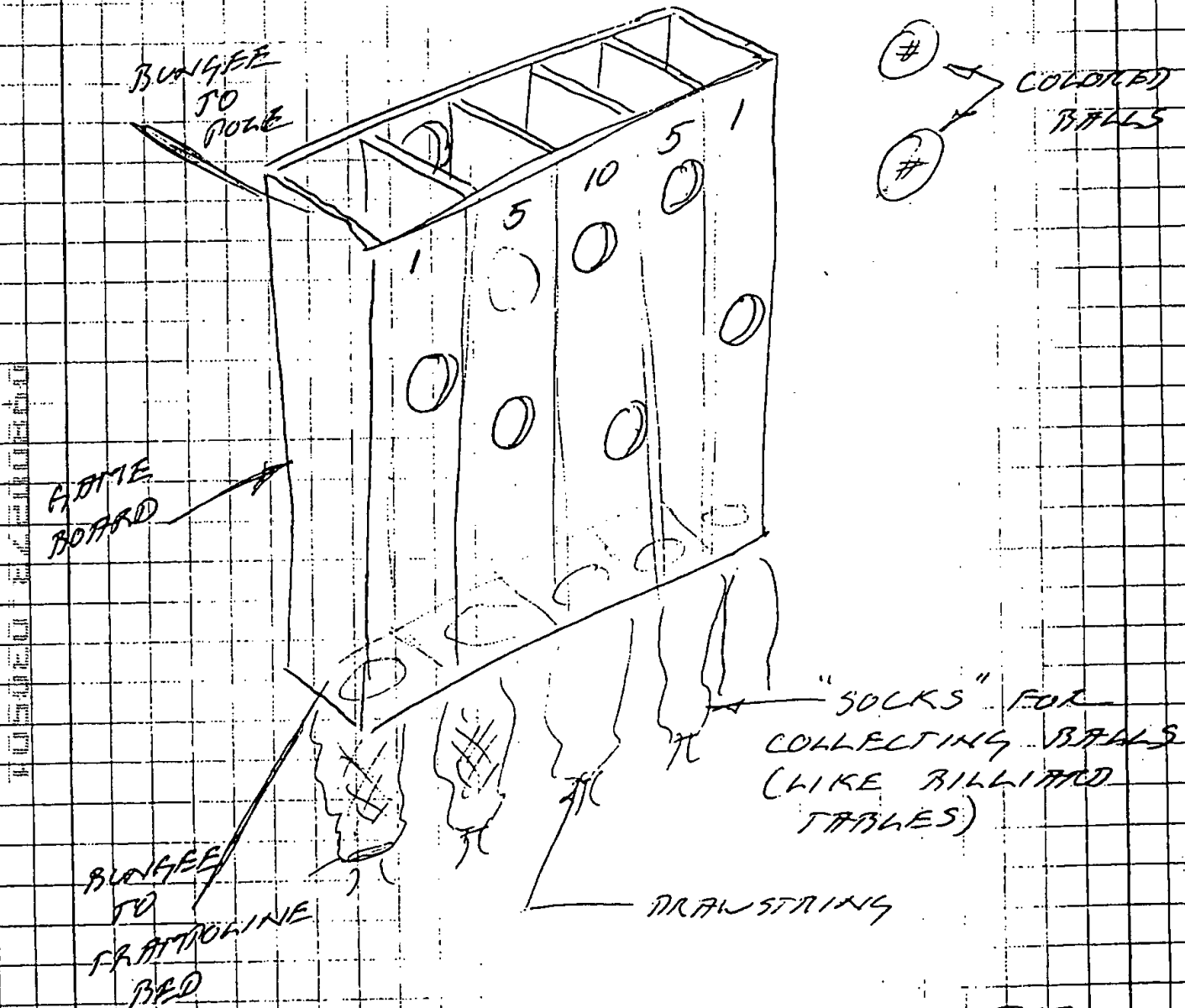
GATIE BLOCK(S)
SUSPENDED ABOVE
TRAMPOLINE. PLAYERS
PULL OUT & COLLECT
PASS BY COLOR
(YELLOW OR
BLUE). CAN

BE SUSPENDED VERTICALLY
OR HORIZONTALLY.

INSERT
BUNGEE
CLIP OR
LOOP

JUMPCOURT PINBALL SCOTT PUBLICOVER WITH BARRY LOU

6/4/98



PLAYERS PLAY AGAINST THE
CLOCK TO BE FIRST TO PUT
ALL THEIR BALLS INTO GAME
HIGHEST POINT BOARD AND/OR
ACCUMULATE HIGHEST POINTS.

GAME BOARD IS ATTACHED TO
TRAMPOLINE BED; MOVES IN RESPONSE
TO JUMPERS, CAUSING FALLING BALLS
TO JUMP; FALL OUT OF GAME BOARD

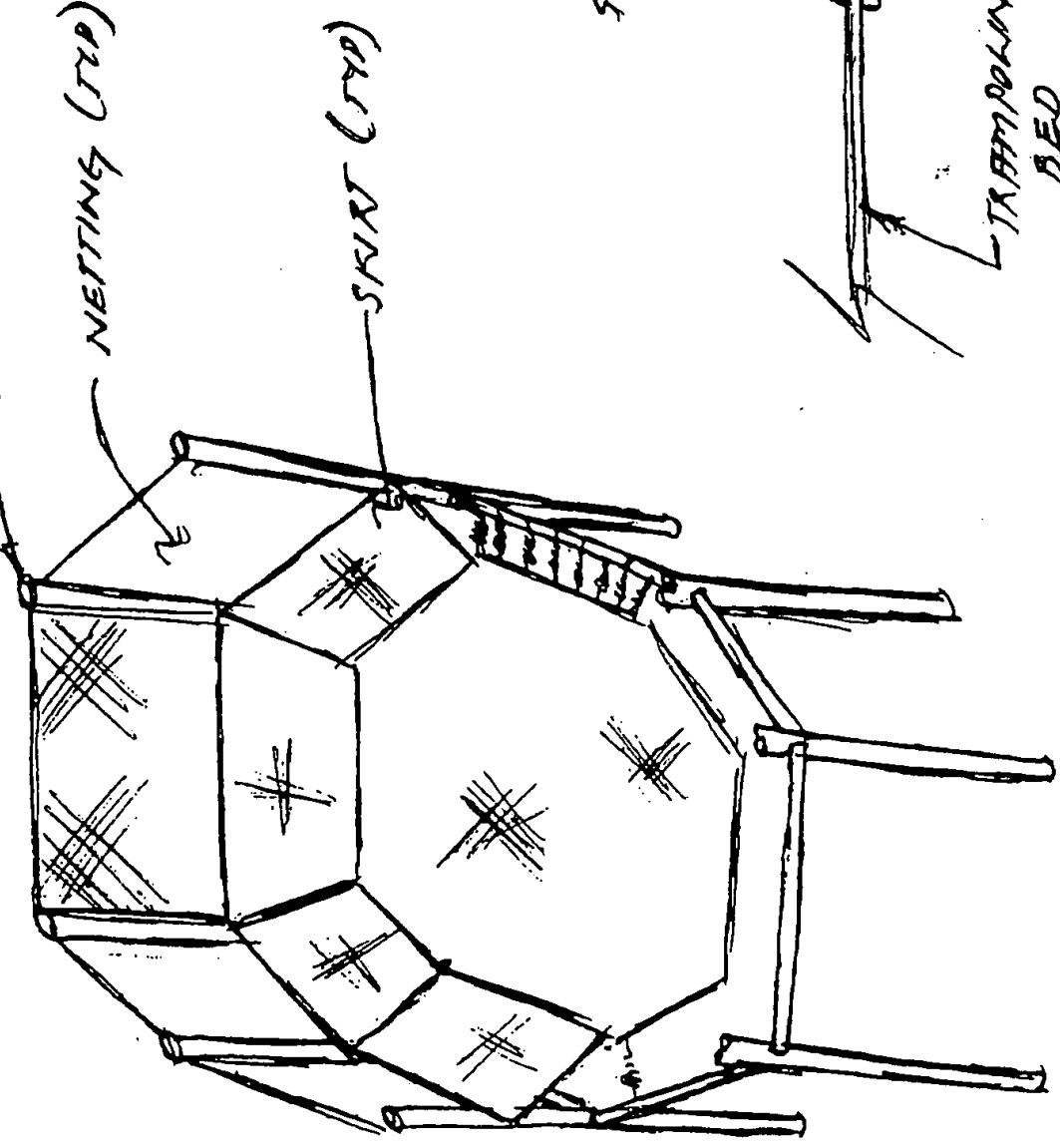
6/14/98 Blue

FOUR-POSTER BED

SUPPORT POLE

NETTING (TYP)

SKIRT (TYP)



NETTING

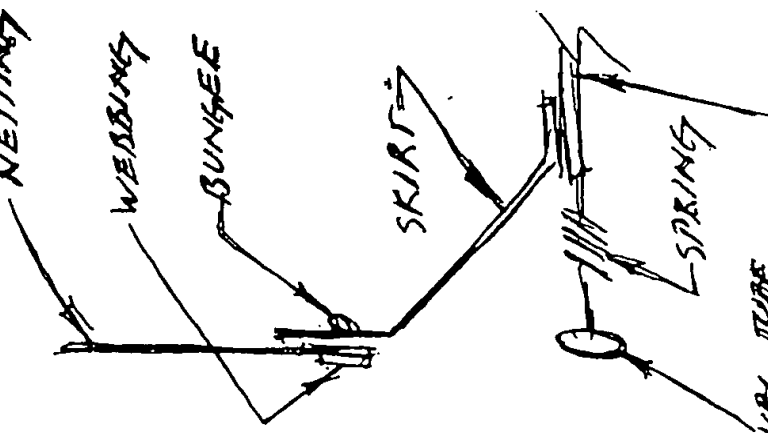
WEBBING

BUNGEE

SKIRT

SPRING

OVER TUBE TRAMPOLINE BED



SKIRTED

TRAMPOLINE COURT

SKIRT

LOOP

TRAMPOLINE BED

SPRING

6/14/98

"Clean Shell - T" Version #3

Weldless/boltless.

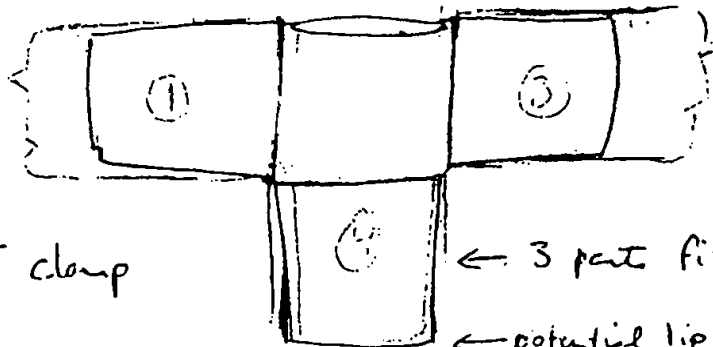
Side view

Tubes 1, 2, & 3

fit over the
2 pieces of

the cross clamp.

Pipe (4) slide
down into the T clamp
and tube 2.



← 3 parts fit tightly together

← potential lip or closed
pend

The upper portion

of the former cross clamp

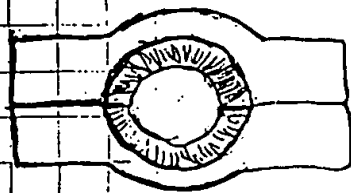
is no longer needed as the strength comes from the

joining of all parts and the overlap of 3 parts in

the leg. Tube four may rest on a lip in the

leg of the portion of the T clamp.

View from top



with this clamp shell T,

no tube would need swaging